

Interview Summary	Application No.	Applicant(s)	
	10/594,274	TAKAMATSU ET AL.	
	Examiner	Art Unit	
	Eric Culbreth	3616	

All participants (applicant, applicant's representative, PTO personnel):

(1) Eric Culbreth. (3)_____.

(2) Mr. Thomas Cole, applicant's attorney. (4)_____.

Date of Interview: 18 November 2009.

Type: a) ☐ Telephonic b) ☐ Video Conference
c) ☒ Personal [copy given to: 1) ☐ applicant 2) ☒ applicant's representative]

Exhibit shown or demonstration conducted: d) ☒ Yes e) ☐ No.
If Yes, brief description: Proposed amendment/response (attached).

Claim(s) discussed: 1,7,13,21 and 28.

Identification of prior art discussed: Kajiyama.

Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Eric Culbreth/
Primary Examiner, Art Unit 3616

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Claims 1 and 7 define over Kajiyama in that that the engaging member engages only after operation of the pretension mechanism and after rotational force in the pull-out direction. In claim 7, it is suggested that the proposed limitation about the single torsion bar be changed to recite the engaging member moves after operation of the pretension mechanism. Claim 13 may have to be reviewed further in view of Kajiyama, and in claims 21 and 28 remarks should explain how the lock member is separate from the engagement member. Also, the applicant's remarks may be amended to include brief explanation of how invention operates compared to Kajiyama.

Roberts Mlotkowski Safran & Cole
a professional corporation

7918 Jones Branch Drive
Suite 500
McLean, VA, 22102
Telephone: (703) 584-3270
Facsimile: (703) 848-2981
E-mail: Info@rmsclaw.com
Web: www.rmsclaw.com

FACSIMILE TRANSMITTAL

TO: Examiner Eric Culbreth
U.S. Patent and Trademark Office

FROM: Attorney Thomas W. Cole

FAX NO.: 571-273-6668

RE: Application Serial No. 10/594,274
Attorney Docket No. 740165-439

PAGES: 20 (including cover page)

DATE: November 6, 2009

MESSAGE:

Please see the attached Proposed Amendment in preparation for the interview to be held at 10:00 AM, Monday, November 16.

Thank you,

Thomas W. Cole

CONFIDENTIALITY NOTICE:

This facsimile message and accompanying documents are intended only for use of the addressee indicated above, and may contain information that is privileged or otherwise confidential under applicable laws. If this transmission has reached you in error, please immediately contact the sender by telephone or facsimile at the numbers listed above and return the original to us by mail. Any copying, distributing, or other use or disclosure of this information by anyone other than the above-named recipient is strictly prohibited. Thank You.

Attorney Docket No. 740165-439

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT Application of)	Confirmation No. 3616
Hitoshi TAKAMATSU et al.)	
U.S. Application Ser. No. 10/594,274)	Ex. Eric D. Culbreth
Filed: April 13, 2007)	
For: WEBBING RETRACTOR, WEBBING)	Group Art Unit 3616
RETRACTING METHOD, AND VEHICLE)	

PROPOSED AMENDMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action mailed August 14, 2009, please amend this application as follows:

Amendments to the Specification begin on page 2;

Amendments to the Claims begin on page 7, and

Remarks begin on page 12.

Amendment
Application Ser. No.10/594,274
Attorney Docket No. 039371-20
Page 2

Amendments to the Specification:

Please replace the originally-filed Abstract with the substitute Abstract attached to this document on a separate sheet of paper.

Please amend paragraphs [0002] and [0004] as follows:

[0002] There are in the prior art webbing retractors equipped with a pretensioner mechanism and a sensor lock mechanism (~~see, for example, Patent Document 1~~). The pretensioner mechanism takes-up a webbing by being operated at the time of an emergency of a vehicle. At the time when the sensor lock mechanism senses that the pull-out acceleration of the webbing has become greater than or equal to a predetermined acceleration, the sensor lock mechanism is operated and locks the pulling-out of the webbing.

[0004] However, ~~as described above~~, the sensor lock mechanism is operated at the time when the sensor lock mechanism senses that the pull-out acceleration of the webbing has become greater than or equal to the predetermined acceleration. Therefore, the webbing is pulled-out from after the operation of the pretensioner mechanism until the operation of the sensor lock mechanism.

~~Patent Document 1: Japanese National Publication No. 10-500648~~

Problems to be Solved by the Invention:

Please amend paragraphs [0006] and [0007] on page 2 as follows:

Means for Solving the Problems

Summary of the Invention:

[0006] ~~A~~ The webbing retractor recited in claim 1 of the invention comprises: a rotating member by which, due to the rotating member being rotated in a take-up direction, a webbing is taken-up, and by which, due to the rotating member being rotated in a pull-out direction,

Amendment
Application Ser. No.10/594,274
Attorney Docket No. 039371-20
Page 3

the webbing is pulled-out; a pretensioner mechanism which, by being operated, rotates the rotating member in the take-up direction; and an engaging member which, at a time of operation of the pretensioner mechanism, is changed from a non-engageable state in which the engaging member cannot engage with the rotating member to an engageable state in which the engaging member does not engage with the rotating member to which rotational force in the take-up direction is applied and engages with the rotating member to which rotational force in the pull-out direction is applied, the engaging member impeding rotation of the rotating member by engaging with the rotating member.

[0007] In ~~the such a webbing retractor recited in claim 1~~, the engaging member is set in a non-engageable state and cannot engage with the rotating member. Further, due to the pretensioner mechanism being operated, the rotating member is rotated in the take-up direction and the webbing is taken-up.

Please amend paragraphs [0011] through [0018] on pages 3 and 4 as follows:

[0011] A ~~The webbing retractor of the invention may further comprise recited in claim 2 comprises, in the webbing retractor recited in claim 1~~: an urging component for urging the engaging member toward the engageable state; and a moving member which, by engaging with the engaging member, sets the engaging member in the non-engageable state, and, due to the moving member being moved due to operation of the pretensioner mechanism, engagement of the moving member with the engaging member is released and the engaging member is changed to the engageable state by the urging component.

[0012] ~~In the webbing retractor recited in claim 2, the~~ The urging component urges the engaging member toward the engageable state. Due to the moving member engaging with the engaging member, the engaging member is set in the non-engageable state. Here, the moving member is moved due to the operation of the pretensioner mechanism. In this way, the engagement of the moving member with the engaging member is released, and the engaging member is changed to the engageable state by the urging component. Therefore, the engaging member can be changed from the non-engageable state to the engageable state by a simple structure.

Amendment
Application Ser. No.10/594,274
Attorney Docket No. 039371-20
Page 4

[0013] A The webbing retractor of the invention may further comprise ~~recited in claim 3 comprises, in the webbing retractor recited in claim 1:~~ a moving/urging member which, by being moved due to operation of the pretensioner mechanism, urges the engaging member and changes the engaging member from the non-engageable state to the engageable state.

[0014] ~~In the webbing retractor recited in claim 3, due~~ Due to the moving/urging member being moved by operation of the pretensioner mechanism, the moving/urging member urges the engaging member and changes the engaging member from the non-engageable state to the engageable state. Therefore, the engaging member can be changed from the non-engageable state to the engageable state by a simple structure.

[0015] ~~In a webbing retractor recited in claim 4, in the webbing retractor recited in any one of claims 1 through 3, the~~ The engageable state of the engaging member is may be maintained after operation of the pretensioner mechanism.

[0016] ~~In the webbing retractor recited in claim 4, the engageable state of the engaging member is maintained after operation of the pretensioner mechanism.~~ Therefore, at the time when rotational force in the pull-out direction is applied to the rotating member, the engaging member can reliably engage the rotating member.

[0017] A The webbing retractor of the invention may also comprise ~~recited in claim 7 comprises:~~ a webbing applied to a vehicle occupant; a pretensioner mechanism, the webbing being taken-up due to the pretensioner mechanism being operated; and a maintaining component for, after conclusion of operation of the pretensioner mechanism, maintaining a load, which is applied from the webbing to the vehicle occupant, at the load at a time of the conclusion of operation of the pretensioner mechanism.

[0018] ~~In the webbing retractor recited in claim 7, the webbing is applied to a vehicle occupant.~~ The webbing is may be taken-up due to operation of the pretensioner mechanism.

Please amend paragraphs [0020] and [0021] on page 4 as follows:

Amendment
Application Ser. No.10/594,274
Attorney Docket No. 039371-20
Page 5

[0020] A The invention also includes a webbing retracting method comprising the steps ~~of recited in claim 13 comprises:~~ taking-up a webbing by operating a pretensioner mechanism; and at a time of operation of the pretensioner mechanism, changing an engaging member from a state in which pulling-out of the webbing cannot be impeded to a state in which taking-up of the webbing is permitted and pulling-out of the webbing is impeded.

~~[0021] A vehicle recited in claim 20 comprises the webbing retractor of any one of claims 1 through 6.~~

Effects of the Invention;

Please amend paragraphs [0026] through [0028] on page 6 as follows:

[0026] A spool 18 (take-up shaft), which ~~structures~~ accommodates a force limiter mechanism, is supported so as to be freely rotatable between the one side wall and the other side wall of the frame 12. An elongated, belt-shaped webbing 20 is taken-up on the spool 18. A solid-cylindrical shaft 22 provided at the proximal end of the webbing 20 is anchored to the spool 18. A vicinity of the proximal end of the webbing 20 is inserted-through the spool 18. In this way, the webbing 20 is anchored to the spool 18. Further, in a vicinity of the portion which is taken-up on the spool 18, the webbing 20 is inserted-through the aforementioned insert-through hole 16. The webbing 20 is applied to an occupant of the vehicle. The webbing 20 is taken-up due to the spool 18 being rotated in a take-up direction. On the other hand, the webbing 20 is pulled-out due to the spool 18 being rotated in a pull-out direction.

[0027] A torsion shaft 24 (energy absorbing member), which ~~structures~~ comprises the force limiter mechanism and a maintaining component, is disposed at the central axis portion of the spool 18. The torsion shaft 24 can torsionally deform due to the application of a torsional load of a predetermined load or more. The other side end of the torsion shaft 24 is anchored to the other side end of the spool 18. The torsion shaft 24 rotates integrally with the spool 18.

[0028] A lock gear 26, which serves as a rotating member ~~structuring~~ of the force limiter mechanism, is provided at the one side of the spool 18. The lock gear 26 is anchored at a vicinity of the one side end of the torsion shaft 24. The lock gear 26 rotates integrally

Amendment
Application Ser. No.10/594,274
Attorney Docket No. 039371-20
Page 6

with the torsion shaft 24 and the spool 18 at times other than when the torsion shaft 24 is torsionally deformed.

Please amend paragraphs [0059] through [0060] on pages 14-15 as follows:

[0059] The lock plate 74 of the lock member 72 is the engaging member which ~~structures~~ forms the maintaining component. In a vicinity of one end, the lock plate 74 is supported so as to be freely rotatable at the lower portion of the gear case 60. The lock plate 74 is disposed at a non-meshable position (non-engageable position) at the side opposite the lock gear 26. The lock plate 74 is in a non-meshable state (non-engageable state) in which the lock teeth 76 of the other end of the lock plate 74 cannot mesh (engage) with the ratchet teeth 28 of the lock gear 26.

[0060] The lock stopper 86 ~~structures~~ forms a moving/urging member. One end of a coil spring 102, which structures the moving/urging member, is fixed to the take-up direction side end of the lock stopper 86. The coil spring 102 is in the state of its natural length at which it does not apply urging force. The other end of the coil spring 102 extends toward the one end of the lock plate 74.

Amendment
Application Ser. No.10/594,274
Attorney Docket No. 039371-20
Page 7

Amendments to the Claims:

1. (Currently Amended) A webbing retractor comprising:

a rotating member by which, due to the rotating member being rotated in a take-up direction, a webbing is taken-up, and by which, due to the rotating member being rotated in a pull-out direction, the webbing is pulled-out;

a pretensioner mechanism which, by being operated, rotates the rotating member in the take-up direction; and

an engaging member which, ~~at a time of~~ due to operation of the pretensioner mechanism, is changed from a non-engageable state in which the engaging member cannot engage with the rotating member to an engageable state in which the engaging member does not engage with the rotating member ~~to which rotational force in the take-up direction is applied~~ and which engages with the rotating member ~~to only after operation of the pretensioner mechanism and after which rotational force in the pull-out direction is applied, whereupon the engaging member impeding immediately impedes~~ rotation of the rotating member by engaging with the rotating member.

Claims 2-6 (Cancelled)

7. (Currently Amended) A webbing retractor comprising:

a webbing applied to a vehicle occupant;

a pretensioner mechanism, the webbing being taken-up due to the pretensioner mechanism being operated; and

a maintaining component for[,] ~~after conclusion of operation of the pretensioner mechanism, maintaining a load at a constant level, which is applied from the webbing to the vehicle occupant[,]at the load at a time of~~ after the conclusion of operation of the pretensioner mechanism, including a single torsion bar and an engaging member that moves ~~due to operation of the pretensioner mechanism.~~ after

8. (Currently Amended) The webbing retractor of claim 7, further comprising a rotating member by which, due to the rotating member being rotated in a take-up direction, the webbing is taken-up, and by which, due to the rotating member being rotated in a pull-out direction, the

Amendment
Application Ser. No. 10/594,274
Attorney Docket No. 039371-20
Page 8

webbing is pulled-out, the rotating member being rotated in the take-up direction due to the pretensioner mechanism being operated,

wherein the ~~maintaining component has an~~ engaging member which, at a time of operation of the pretensioner mechanism, is changed from a non-engageable state in which the engaging member cannot engage with the rotating member to an engageable state in which the engaging member does not engage with the rotating member to which rotational force in the take-up direction is applied and engages with the rotating member to which rotational force in the pull-out direction is applied, the engaging member impeding rotation of the rotating member by engaging with the rotating member.

9. (Currently Amended) The webbing retractor of claim 8, further comprising:

an urging component for urging the engaging member toward the engageable state; and

a ~~moving~~ stopper member which, by engaging with the engaging member, sets the engaging member in the non-engageable state, and, due to the moving member being moved due to operation of the pretensioner mechanism, engagement of the ~~moving~~ stopper member with the engaging member is released and the engaging member is changed to the engageable state by the urging component.

10. (Currently Amended) The webbing retractor of claim 8, further comprising a ~~moving~~ urging ~~stopper~~ member which, by being moved due to operation of the pretensioner mechanism, ~~urges the engaging member and~~ changes the engaging member from the non-engageable state to the engageable state.

11. (Previously Presented) The webbing retractor of claim 8, wherein the engageable state of the engaging member is maintained after operation of the pretensioner mechanism.

12. (Previously Presented) The webbing retractor of claim 8, further comprising a take-up shaft on which the webbing is taken-up, and at one side of the take-up shaft, the pretensioner mechanism applies rotational force to the rotating member and the engaging member engages the rotating member.

Amendment
Application Ser. No. 10/594,274
Attorney Docket No. 039371-20
Page 9

13. (Currently Amended) A webbing retracting method comprising:

taking-up a webbing by operating a pretensioner mechanism; and

at a time of operation of the pretensioner mechanism, changing an engaging member from a state in which pulling-out of the webbing cannot be impeded to a state in which taking-up of the webbing is permitted and from a state in which taking-up of the webbing is permitted to a state in which pulling-out of the webbing is impeded.

14. (Original) The webbing retracting method of claim 13, further comprising:

rotating a rotating member in a take-up direction by operating the pretensioner mechanism, the webbing being taken-up due to the rotating member being rotated in the take-up direction and the webbing being pulled-out due to the rotating member being rotated in a pull-out direction; and

at the time of operation of the pretensioner mechanism, changing the engaging member from a non-engageable state, in which the engaging member cannot engage with the rotating member, to an engageable state, in which the engaging member does not engage with the rotating member to which rotational force in the take-up direction is applied and engages with the rotating member to which rotational force in the pull-out direction is applied and impedes rotation of the rotating member.

15. (Original) The webbing retracting method of claim 14, further comprising:

setting the engaging member in the non-engageable state, by causing a moving member to engage with the engaging member; and

by moving the moving member by operation of the pretensioner mechanism, canceling engagement of the moving member with the engaging member, and changing the engaging member to the engageable state by an urging component which urges the engaging member toward the engageable state.

16. (Currently Amended) The webbing retracting method of claim 14, further comprising:

~~a moving/urging member urging the engaging member and~~ changing the engaging member from the non-engageable state to the engageable state[,] by moving ~~the moving/urging a~~ stopper member by operation of the pretensioner mechanism.

Amendment
Application Ser. No. 10/594,274
Attorney Docket No. 039371-20
Page 10

17. (Previously Presented) The webbing retracting method of claim 14, further comprising:
maintaining the engageable state of the engaging member, after operation of the pretensioner mechanism.

18. (Previously Presented) The webbing retracting method of claim 14, further comprising:
at one side of a take-up shaft on which the webbing is taken-up, the pretensioner mechanism applying rotational force to the rotating member and causing the engaging member to engage with the rotating member.

19. (Previously Presented) The webbing retracting method of claim 13, further comprising:
after conclusion of operation of the pretensioner mechanism, maintaining a load, which is applied from the webbing to a vehicle occupant to which the webbing is applied, at the load at a time of the conclusion of operation of the pretensioner mechanism.

Claim 20 (Cancelled)

21. (Currently Amended) A webbing retractor comprising:

a rotating member by which, due to the rotating member being rotated in a take-up direction, a webbing is taken-up, and by which, due to the rotating member being rotated in a pull-out direction, the webbing is pulled-out;

a lock member which, at a time when it is sensed that a pull-out acceleration of the webbing has become greater than or equal to a predetermined acceleration, or at a time of rapid deceleration of a vehicle, ~~or the like~~, impedes rotation of the rotating member in the pull-out direction;

a pretensioner mechanism which, by being operated, rotates the rotating member in the take-up direction; and

an engaging member that is separate from the lock member which, at a time of operation of the pretensioner mechanism, is changed from a non-engageable state in which the engaging member cannot engage with the rotating member to an engageable state in which the engaging member does not engage with the rotating member to which rotational force in the take-up direction is applied and engages with the rotating member to which rotational force in the pull-

Amendment
Application Ser. No. 10/594,274
Attorney Docket No. 039371-20
Page 11

out direction is applied, the engaging member impeding rotation of the rotating member by engaging with the rotating member.

22. (Currently Amended) The webbing retractor of claim 1, further comprising:

an urging component for urging the engaging member toward the engageable state; and
a moving stopper member which, by engaging with the engaging member, sets the engaging member in the non-engageable state, and, due to the moving stopper member being moved due to operation of the pretensioner mechanism, engagement of the moving stopper member with the engaging member is released and the engaging member is changed to the engageable state by the urging component.

23. (Currently Amended) The webbing retractor of claim 1, further comprising a moving/urging stopper member which, by being moved due to operation of the pretensioner mechanism, urges the engaging member and changes the engaging member from the non-engageable state to the engageable state.

24. (Previously Presented) The webbing retractor of claim 1, wherein the engageable state of the engaging member is maintained after operation of the pretensioner mechanism.

25. (Currently Amended) The webbing retractor of claim 24, further comprising a restricting member which, by being moved due to operation of the pretensioner mechanism, restricts movement of the moving/urging member engaging member and the engageable state of the engaging member is maintained.

26. (Previously Presented) The webbing retractor of claim 1, further comprising a take-up shaft on which the webbing is taken-up, and at one side of the take-up shaft, the pretensioner mechanism applies rotational force to the rotating member and the engaging member engages the rotating member.

27. (Previously Presented) A vehicle comprising the webbing retractor of claim 1.

Amendment
Application Ser. No. 10/594,274
Attorney Docket No. 039371-20
Page 12

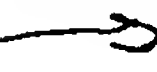
28. (New) A webbing retractor comprising:

a rotating member directly connected to a webbing spool by which, due to being rotated in a take-up direction, a webbing is taken-up, and by which, due to the rotating member being rotated in a pull-out direction, the webbing is pulled-out;

a lock member which, at a time when it is sensed that a pull-out acceleration of the webbing has become greater than or equal to a predetermined acceleration, or at a time of rapid deceleration of a vehicle impedes rotation of the rotating member in the pull-out direction;

a pretensioner mechanism which, by being operated, rotates the rotating member in the take-up direction;

a force limiter including a single torsion bar for maintaining a load which is applied from the webbing to the vehicle occupant at a constant level; and

24.  an engaging member that is separate from the lock member which, due to operation of the pretensioner mechanism, is changed from a non-engageable state in which the engaging member cannot engage with the rotating member to an engageable state in which the engaging member can engage but does not engage with the rotating member until a rotational force in the take-up direction is applied to the rotating member and the single torsion bar of the force limiter, whereupon said engaging member immediately engages with and impedes the rotating member from rotating.

Amendment
Application Ser. No.10/594,274
Attorney Docket No. 039371-20
Page 13

REMARKS

The objections to the drawings have been obviated by the submission of substitute sheets for Figures 1 and 2 which correct all the errors pointed out by the Examiner in the last Office Action.

The objections to the specification have been obviated by providing a one-paragraph substitute Abstract on a separate sheet at the end of this document, and by revising paragraphs [0002] and [0004] to delete all reference to "Document 1", revising paragraphs [0006]-[0021] to delete all reference to claim numbers, and by amending paragraphs [0026]-[0028] and [0059] and [0060] to replace the word "structures" with more accurate and appropriate terminology. No new matter has been added to the specification.

Applicants respectfully traverse the Examiner's objection to the specification on the basis that it fails "to provide proper antecedent basis for the claimed subject matter." Applicants' attorney would point out that all of the terms used in the claims (such as "rotating member" and "maintaining component") have been expressly cross-referenced to specific numbered components of the preferred embodiments in paragraph [0072], reproduced hereinbelow:

[0079] 10 webbing retractor
18 spool (take-up shaft)
20 webbing
24 torsion shaft (maintaining component)
26 lock gear (rotating member)
34 pretensioner mechanism
70 compression coil spring (urging component)
74 lock plate (engaging member, maintaining component)
78 lock pawl (engaging member, maintaining component)
86 lock stopper (moving member, moving/urging member)
100 webbing retractor
102 coil spring (moving/urging member)

The rejection of claims 9-10; 16, 21, 23 and 25 under 35 USC §112, second paragraph, has been obviated by revising these claims to define the invention in clearer and more concise terms. In particular, the term "moving/urging member" has been replaced

Amendment
Application Ser. No. 10/594,274
Attorney Docket No. 039371-20
Page 14

throughout the claims with the clearer term "stopping member" (corresponding to lock stopper 86). Also, the apparent double inclusion of the term "lock member" and "engaging member" has been corrected by reciting that these components are separate from one another, as is the lock plate 74 and the lock pawl 78 disclosed in the disclosure. With respect to claim 25, the Examiner should note that the recited "restricting member" corresponds to the leg 84 of the guide plate 80 (see paragraph [0044] of the disclosure). Accordingly, reconsideration and withdrawal of the §112, second paragraph is appropriate.

Finally, the rejection of the claims under 35 USC §102(b) over the Kajiyama '441 patent has been obviated by revising claim 1 to more clearly recite the functional aspects of the invention. Specifically, amended claim 1 recites a webbing retractor comprising: a rotating member by which, due to the rotating member being rotated in a take-up direction, a webbing is taken-up, and by which, due to the rotating member being rotated in a pull-out direction, the webbing is pulled-out; a pretensioner mechanism which, by being operated, rotates the rotating member in the take-up direction; and

an engaging member which, due to operation of the pretensioner mechanism, is changed from a non-engageable state in which the engaging member cannot engage with the rotating member to an engageable state in which the engaging member does not engage with the rotating member and which engages with the rotating member only after operation of the pretensioner mechanism and after rotational force in the pull-out direction is applied, whereupon the engaging member immediately impedes rotation of the rotating member by engaging with the rotating member.

Thus amended claim 1 recites two conditions for the engaging member (corresponding to the lock pawl 78) to engage and impede the rotational member, i.e. (1) the pretensioner must operate, and (2) a rotational force in the pull-out direction must be applied to the rotational member. After the first condition is fulfilled, the engaging member does not engage with the rotating member. Such engagement occurs only after the second condition is fulfilled, whereupon the engaging member "immediately" impedes rotation of the rotating member. Such operation results in the advantages of the invention graphically depicted in Figure 6, which include the (1) reduction of the amount of webbing pulled out during an emergency condition, (2)

Amendment
Application Ser. No.10/594,274
Attorney Docket No. 039371-20
Page 15

the application of a constant and lower force from the seatbelt to the vehicle occupant, and (3) the prevention of the moving of the piston of the pretensioner back to the interior of the cylinder.

None of the references of record remotely discloses or suggests the webbing retractor recited in amended claim 1. All that the Kajiyama '441 patent discloses is a lock member that engages a lock wheel 35 connected to a second torsion bar 32 immediately after the operation of a pretensioner 11. Thus the Kajiyama '441 patent neither discloses nor suggests the recited engaging member that engaging a rotating member only after "operation of the pretensioner mechanism and rotational force in the pull-out direction is applied,..." This is not a trivial distinction, as such operation prevents this device from realizing all of the advantages of the invention. For this reason alone, amended claim 1 is patentable over the Kajiyama '441 patent.

Claim 7 recites a webbing retractor comprising a webbing applied to a vehicle occupant; a pretensioner mechanism, the webbing being taken-up due to the pretensioner mechanism being operated; and a maintaining component for maintaining a load at a constant level, which is applied from the webbing to the vehicle occupant after the conclusion of operation of the pretensioner mechanism,

including a single torsion bar and an engaging member that moves due to operation of the pretensioner mechanism.

As the seat belt retractor disclosed in the Kajiyama '441 patent clearly has, and must have, two torsion bars in order to operate, amended claim 7 is patentable over this reference for this reason alone.

Claim 8 is patentable not only for its dependency on amended claim 7 but for its recitation of the same components discussed with respect to the patentability of amended claim 1. Hence claim 8 is clearly patentable.

Claims 9-12 are patentable at least by reason of their dependency on claim 8.

Claim 13 recites, in method terminology, the same limitations discussed with respect to claim 1. Accordingly, claim 13 is patentable over the Kajiyama '441 patent for substantially the same reasons given with respect to claim 1.

Amendment
Application Ser. No.10/594,274
Attorney Docket No. 039371-20
Page 16

Claims 14-19 are patentable at least by reason of their ultimate patentability on amended claim 13.

Claim 21 recites in even greater detail all of the limitations discussed with respect to amended claim 1. Accordingly, all of the arguments for the patentability of claim 1 apply with even greater force to claim 21.

Claims 22-27 are patentable at least by reason of their ultimate dependency on amended claim 1.

Finally, new claim 28 is patentable for its recitation of

a rotating member **directly connected to a webbing spool** by which, due to being rotated in a take-up direction, a webbing is taken-up, and by which, due to the rotating member being rotated in a pull-out direction, the webbing is pulled-out;

a force limiter including a **single torsion bar** for maintaining a load which is applied from the webbing to the vehicle occupant at a constant level, and

an engaging member that is separate from the lock member which, due to operation of the pretensioner mechanism, is changed from a non-engageable state in which the engaging member cannot engage with the rotating member to an engageable state in which the engaging member can engage but does **not engage** with the rotating member **until** a rotational force in the take-up direction is applied to the rotating member **and the single torsion bar of the force limiter**, whereupon said engaging member **immediately engages with and impedes** the rotating member from rotating.

Support for this amendment is present in paragraph [0046] as follows:

[0046] On the other hand, after operation (after the conclusion of operation) of the pretensioner mechanism 34, pull-out load is applied to the webbing 20 from the vehicle occupant, **and, immediately after rotational force in the pull-out direction is applied to the spool 18, the torsion shaft 24 and the lock gear 26**, the other end of the guide plate 80 is rotated toward the lock gear 26 by the rotational force in the pull-out direction of the ratchet tooth 28 which the guide leg 84 of the guide plate 80 abuts first. **In this way, the other end of the lock pawl 78 is rotated toward the lock gear 26 by the guide leg 82 of the guide plate 80, and meshes with the next ratchet tooth 28** in the take-up direction after that ratchet tooth 28. Therefore, rotation of the

Amendment
Application Ser. No. 10/594,274
Attorney Docket No. 039371-20
Page 17

lock gear 26 in the pull-out direction is impeded, and pulling-out of the webbing 20 is impeded. (Emphasis added.)

The advantage of such an operation is set forth in paragraphs [0047] and [0048] as follows:

[0047] Further, after the rotation of the lock gear 26 in the pull-out direction is impeded by the lock pawl 78 and the pulling-out of the webbing 20 is impeded in this way, at the time when the torsional load applied to the torsion shaft 24 from the vehicle occupant via the webbing 20 and the spool 18 is greater than or equal to a predetermined load, the force limiter mechanism is operated. Namely, due to the torsion shaft 24 being torsionally deformed, the spool 18 is rotated in the pull-out direction **independently of the lock gear 26**. In this way, the webbing 20 is pulled-out, **and the load (energy) applied to the vehicle occupant from the webbing 20 is absorbed**.

[0048] Due to the above, as compared with a case in which the lock teeth 76 of the lock plate 74 are made to mesh with the ratchet teeth 28 of the lock gear 26 and pulling-out of the webbing 20 is impeded due to it being sensed that the pull-out acceleration of the webbing 20 has become greater than or equal to the predetermined acceleration after the pretensioner mechanism 34 operates, **the amount of the webbing 20 which is pulled-out can be reduced from after the operation of the pretensioner mechanism 34 until the operation of the force limiter mechanism**.

By contrast, the lock wheel 35 of the Kajiyama '441 patent is not "directly connected" to the spool 4, but instead is indirectly connected to the spool 4 via gears 33, 34 and 30, 31. Moreover, the force limiter of the Kajiyama '441 patent includes two torsion bars 32 and 7. Finally, the lock member 38 of the Kajiyama '441 patent operates **immediately** upon the operation of the pretensioner 11, with **no delay** between the termination of the operation of the pretensioner and the application of a pull-out force to the lock wheel (see column 5, lines 56-64). For all these reasons, new claim 28 is clearly patentable over the Kajiyama '441 patent.

Now that all of the claims are believed to be patentable, the prompt issuance of a Notice of Allowance is hereby earnestly solicited.

Amendment
Application Ser. No. 10/594,274
Attorney Docket No. 039371-20
Page 18

Respectfully submitted,

Date: November 3, 2009

Thomas W. Cole
Registration No. 28,290

Customer No. 25570

Roberts Mlotkowski Safran & Cole P.C.
P.O. Box 10064
McLean, VA 22102
Telephone: (703) 677-3001

Amendment
Application Ser. No. 10/594,274
Attorney Docket No. 039371-20
Page 19

ABSTRACT

A webbing retractor is provided that reduces the amount of webbing that is pulled-out after operation of a pretensioner mechanism. In a webbing retractor 10, a lock pawl 78 is set in a non-meshable state in which it cannot mesh with a lock gear 26. At a time when a pretensioner mechanism 34 operates and a clutch plate 42 rotates in a take-up direction, a lock stopper 86 rotates together with the clutch plate 42 and releases engagement with the lock pawl 78. Therefore, the lock pawl 78 is rotated by a compression coil spring 70 and changed to a meshable state. In this way, immediately after rotational force in a pull-out direction is applied to the lock gear 26 due to load from a vehicle occupant after operation of the pretensioner mechanism 34, the lock pawl 78 meshes with the lock gear 26, and pulling-out of a webbing 20 is impeded. Therefore, an amount of the webbing 20 which is pulled-out can be reduced.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:**

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.